

Appln. No. 10/721,686  
Docket No. 14XZ129714/GEM-0106

### **REMARKS**

#### **Status of Claims**

Claims 1-19, 21-29, and 32-36 are pending in the application and stand rejected. Applicant has amended Claims 1, 4, 9, 12, 22, 28, and 29 leaving Claims 1-19, 21-29 and 32-36 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

#### **Rejections Under 35 U.S.C. §103(a)**

Claims 1, 2, 4-6, 8-10, 12, 22, 24, 28, 32, 34-36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen (U.S. Patent Application Publication No. 2002/0085681, hereinafter Jensen) in view of Hinton et al. (U.S. Patent No. 5,485,502, hereinafter Hinton).

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton as applied to Claim 12 above, and further in view of Deucher et al. (U.S. Patent No. 5,220,588, hereinafter Deucher).

Claims 14-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and Deucher as applied to Claims 12 and 13 above, and further in view of Noegel et al. (U.S. Patent Application Publication No. 2002/0085682, hereinafter Noegel).

Claims 18, 19, and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and Deucher as applied to Claims 12 and 13 above, and further in view of Noegel and Pearson et al. (U.S. Patent No. 6,301,324, hereinafter Pearson).

Claims 23, 25, 29, and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton as applied to Claim 22 above, and further in view of Cenic et al. ("Dynamic CT Measurement of Cerebral Blood Flow: A Validation Study", hereinafter Cenic).

Claims 3, 7, 11, 26, and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jensen in view of Hinton and Cenic as applied to Claims 1, 9, 22, and 23 above, and further in view of Kruger et al. (U.S. Patent No. 4,577,222, hereinafter Kruger).

Applicant traverses these rejections for the following reasons.

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Applicant respectfully submits that the obviousness rejection based on the References is improper as *the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs*. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

**Regarding Examiner's Paragraph 1, and Independent Claims 1, 9, and 22**

The Examiner remarks "Applicant argues that Jensen fails to disclose repetitive complete movement to form a periodically refreshed complete 3D model of the object, which is directed to carrying out of the entire given movement repetitively. The Examiner disagrees. Jensen discloses the advancement *from a last position to a next incremental position*, which reads on the above, since *each incremental movement is interpreted as a complete or entire given movement*. The incremental movements are a repetition of a complete or entire 5° given rotational movement." (Paper 200601, pages 7-8) (emphasis added).

A teleconference was held with the Examiner on March 27, 2006 to seek the Examiner's perspective to develop language to properly distinguish the motion of the current invention from that of Jensen. It was agreed that an amendment reciting "...*the given movement defined by a sequence of movements that captures a sequence of 2D images...*" would sufficiently distinguish the motion of the current invention from that of the Jensen reference, since the *given movement* of the current invention is directed to *a complete sequence of movements and not just one increment of a sequence of increments*, and the Examiner interprets the *given movement* of Jensen to be *one increment in a sequence of increments*.

If upon further reflection, the Examiner believes that other language would advance this case to allowance, Applicant invites the Examiner to contact Applicant's Attorneys at the telephone number provided below to address such matters.

In view of the foregoing, Applicant has amended independent Claims 1, 9 and 22 to now include, inter alia, the limitation of:

"...*the given movement defined by a sequence of movements that captures a sequence of 2D images...*" (Claims 1 and 22); and

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*"...the given movement defined by a sequence of movements that captures the sequence of 2D images..."* (Claim 9).

No new matter has been added as antecedent support may be found in the specification as originally filed, such as at Paragraphs [0007], [0008], [0021] and [0023] for example.

Dependent claims inherit all of the limitations of the respective parent claim.

In comparing the combination of Jensen and Hinton, in consideration of the Examiner's remarks above, with the claimed invention as amended, Applicant finds Jensen to teach "the image processing computer 16 performs parallel operations *to repeat steps 305-340* to improve upon the 3-D patient data set...". (emphasis added) (Jensen, Paragraph [0053]).

Here, Applicant finds Jensen to teach the repetition of incremental *steps 305-340*, and submits that such a teaching is merely the implementation of a logical do-loop that advances the motion of the receptor from its last known position to its next *incremental position*, such as by 5 degrees for example (see Paragraph [0054], last line). The Examiner has remarked that "...each incremental movement...", which is configured to provide a single image, "...is interpreted as a complete or entire given movement." In consideration of the Examiner's remarks above and during the aforementioned teleconference, the preceding amendment has been provided to more clearly define the *given movement* of the current invention.

Applicant respectfully submits that the teachings of Jensen do not disclose the now claimed:

*"...the given movement defined by a sequence of movements that captures a sequence of 2D images ...driving the mobile support so that it carries out the complete given movement repetitively to form a periodically refreshed complete 3D model of the object"* of Claim 1;

*"...the given movement defined by a sequence of movements that captures the sequence of 2D images...the means for control being programmed ... so that it carries out the complete given movement repetitively... forming a periodically refreshed complete 3D model..."* of Claim 9; and

*"...the given movement defined by a sequence of movements that captures a sequence of 2D images, the given movement repeated during a given time... continuous reconstitution of the 3D model..."* of Claim 22.

Not only does Applicant find Jensen to be absent any teaching or suggestion of the *given movement, defined by a sequence of movements, being repetitively performed*, but Applicant

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also finds Jensen to be absent any teaching or suggestion of the repetitive movement being used to form a periodically refreshed complete 3D model of the object. In addition, Applicant further submits that Jensen is devoid of any discussion at all of periodically refreshing the *complete* 3D model of the object.

Accordingly, Applicant submits that Jensen fails to teach each and every element of the claimed invention arranged in such a manner as to perform as the claimed invention performs, and that Hinton fails to cure the aforementioned deficiencies of Jensen (Hinton being cited for teaching movement with respect to a means for supporting an object).

**Regarding Claims 4, 12 and 28 More Specifically**

Applicant has amended Claims 4, 12 and 28 to now recite, inter alia:

*"...the continuous repetitive rotation defined by a series of complete rotations without interruption in the same direction..."*.

No new matter has been added as antecedent support may be found in the specification as originally filed, such as at Paragraph [0025], for example.

The Examiner alleges that Jensen discloses "...driving the mobile support so that it carries out the continuous complete rotation movement repetitively (fig. 8. #305 and 350)..." (Paper 200601, page 2).

In comparing the current invention with Jensen, Applicant submits that Jensen is absent any teaching of the now claimed *"... series of complete rotations without interruption in the same direction..."*.

Accordingly, Applicant submits that Jensen fails to teach each and every element of the claimed invention arranged in such a manner as to perform as the claimed invention performs, and that Hinton fails to cure the aforementioned deficiencies of Jensen (Hinton being cited for teaching movement with respect to a means for supporting an object).

**Regarding Claims 5, 6, 8, 9 and 22 More Specifically**

The Examiner alleges "Jensen further discloses a sequence of 2D images (claim 6) continuously memorized or stored, on a sliding window, corresponding to a number of images necessary for reconstitution of a 3D model (paragraph 52, lines 11-13), and processing is applied for continuous reconstitution of a 3D model on this sliding window (fig. 8, #345 or 350). Paper 200601, page 3.

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Applicant finds Jensen to disclose "Dashed lines 330, 345, and 350 indicate that, while steps 326, 335 and 340 are being carried out, the image processing computer 16 performs parallel operations to repeat steps 305-340 to improve upon the 3-D patient data set and also upon the patient slices and 3-D images being displayed." (emphasis added) (Jensen, paragraph 53 lines 10-15)

Here, Applicant finds Jensen to disclose the repeating of an image capture (step #315) to add detail to an establi

shed 3-D data set and corresponding 3-D image.

In comparing Jensen with the claimed invention, Applicant respectfully submits that Jensen is absent disclosure of the claimed:

"...continuous reconstitution of a 3D model on this sliding window..." of Claims 5, 6, 8 and 22; and

"...continuously implementing a method for reconstitution of a 3D model on this sliding window..." of Claim 9.

Applicant further submits that the claimed *reconstitution* of a 3D model is substantially different from the Jensen *improvement* of a 3D model, as the quantity of data to *reconstitute* a 3D model is greater than that to *improve* a 3D model.

Accordingly, Applicant submits that Jensen fails to teach each and every element of the claimed invention arranged in such a manner as to perform as the claimed invention performs, and that Hinton fails to cure the aforementioned deficiencies of Jensen (Hinton being cited for teaching movement with respect to a means for supporting an object).

#### **Regarding Examiner's Paragraphs 7-11**

In view of Claim 13 (Paragraph 7), Claims 14-17 (Paragraph 8), Claims 18, 19 and 21 (Paragraph 9), Claims 23, 25, 29 and 33 (Paragraph 10), and Claims 3, 7, 11, 26 and 27 (Paragraph 11), being dependent claims, Applicant submits that dependent claims depending from an allowable claim are also allowable, and that the cited references fail to cure the aforementioned deficiencies of Jensen and Hinton. In view of Applicant's remarks above regarding the allowability of the respective parent claims, Applicant submits that the subject Claims of Examiner's Paragraphs 7-11 are now allowable, and respectfully requests notice of allowance thereof.

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In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 50-2513.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

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